

ABSTRACT

A pattern generating system for generating two-dimensional images on a surface includes a light source and one or more Zone Plate Modulator (ZPM) arrays. The ZPM arrays comprise diffractive zone plate modulating elements that are capable of either diffracting or reflecting an incident light according to the image data. In a high-resolution pattern generating system, ZPM arrays are used as spot array generators. A complete high-resolution image is formed by scanning individual light spots in the spot array using a subfield scanning means.